

Faculty Working Papers

INFLUENCES AFFECTING THE ABANDONMENT
OF CLASS II RAILROADS

John F. Due

#293

Trans. Res. # 11

College of Commerce and Business Administration
University of Illinois at Urbana-Champaign



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The purpose of this study is to examine the financial and traffic statistics of a sample of Class II railroads abandoned in the period between 1935 and 1968 and the data provided in the abandonment proceedings to gain additional information about the influences affecting abandonment. These results are then compared with comparable data for a sample of light traffic Class II railroads that were still in operation in 1975, to seek to determine the factors that influence the ability of short line roads to continue to operate.

THE ABANDONED LINES

For the abandoned lines, initially a sample of 30 roads was selected that were in operation in 1930 but not in 1975, five being included because previous work had shown them to be more or less typical light traffic lines, the rest at random. Of the original 30, two had been absorbed by major roads--the Montana Western (Burlington Northern) and Virginia and Carolina Southern (Seaboard Coast Line) after abandonment of a segment. For five, statistical data were available but the hearings documents were not. These five are included in part in the analysis of the statistics but not the overall study. In order to restore the size of the basic sample to 25, two more roads were then added. One line, the Ahnapsee and Western was included although a small segment remained in operation.

The roads are as follows (those included for statistical analysis only are starred):

* The author is greatly indebted to Dr. Stephen Thompson, formerly on the I.C.C. staff, for his assistance in obtaining necessary documents.


Ahnapee and Western; Arkansas; Bartlett Western*; Buffalo-Union Carolina;
Canton and Carthage; Cassville and Exeter; Flemingsburg and Northern;
Flint River and Northeastern; Fredericksburg and Northern*; Great Southern;
Hoopole Yorktown and Tampico; Jacksonville and Havana; Lakeland; Manchester
and Oneida*; Mississippi and Alabama; Montana, Wyoming and Southern;
Murfreesboro-Nashville; Nevada Copper Belt; Oneida and Western; Sanford and
Eastern*; Suncook Valley; Sylvania Central; Tennessee, Kentucky and Northern*;
Tonopah and Goldfield; Trans-Florida Central; Virginia and Truckee; Waterville;
Wichita Northwestern; Wichita Falls and Southern; Wyoming.

Ownership.

The 25 roads were owned by a great variety of interests:

Major railroads	2	
Local shippers	6	(Grain elevators; textile mill; coal company, and miscellaneous)
Local interests, other than shippers	9	One, the Flint River and Northeastern was owned by a local interest that also owned several other short lines in the same area.
Outside interests	7	Two were owned by a scrap metal firm; two by outside interests that formerly were major shippers or had other investments locally.
Municipal	1	(Lakeland)

Many of the lines had never changed ownership. One, the Jacksonville and Havana, was formed from portions of a larger line previously abandoned. Two had been purchased by a scrap dealer from local owners and continued to operate. Others had changed hands several times. Only one was in receivership at the time of abandonment, but several had gone through bankruptcy.



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Period of Construction.

Exact data are not available for the time of building of all of these lines, but of the segments for which information is available, a total of 26, all except eight, were built after 1900, even though about 80% of all railroad mileage in the U. S. had been completed by 1900. Eight segments were built after 1909--although there was little overall construction beyond that date. The implications are obvious: Most of the best routes had been built by 1900, and lines coming after that time were in many instances marginal from the beginning. By contrast, the oldest segment to be abandoned was built in 1853 (a portion of the Jacksonville and Havana in Illinois), a route superseded by better routes built at later dates.

Nature of the Lines and Service.

Primarily the lines were dead-end stub lines, with most of the traffic to the community at the end. Three, however, had connections with main lines at each end, and two, the Wichita and Northwestern, and the Wichita Falls and Southern had connections with several roads, but the former with some dead-end segments. One other, Murfreesboro-Nashville, intersected another short line.

Seven of the lines were continuing to provide passenger service up to the end, three by mixed train, four by some form of gasoline motor car. Five of the lines operated freight service irregularly on demand, nine two or three times a week (some not running if there was no traffic), two ran daily freight service, and one, the Suncook Valley, two round trips a day (mixed train).

Nine of the lines had shut down prior to the abandonment application: the Ahnapsee and Western because of the condemning of a bridge, the Waterville because of a flood, the others either because they had run out of money to pay bills, there was no traffic, or track was unsafe. Five years elapsed between the shutdown of the Wyoming and the application to abandon. Such action is illegal--unless, presumably under court order, as with the Wichita Northwestern, but no action is normally taken against the owners because of the futility of doing so.

The Nature of the Traffic.

Most short line carriers show an unbalance of traffic, and these lines were no exception. Nearly half, 11, had predominately outbound traffic, 4 of these almost exclusively so;¹ 8 had predominately inbound traffic, 3 of these almost exclusively;² 6--Buffalo Union Carolina, Hoopole Yorktown and Tampico, Tonopah and Goldfield, Trans-Florida Central, Canton and Carthage, and Wichita Falls and Southern did have relatively balanced traffic.

Only one, the Jacksonville and Havana, had substantial bridge traffic, about half of the total. Most, of course, could not have since they connected with only one railroad.

Half of these lines had over 50% of their traffic concentrated in one commodity class, as follows:

¹Great Southern, Waterville (both wheat carriers), Montana, Wyoming and Southern, and Murfreesboro-Nashville.

²Cassville and Exeter, Flemingsburg and Northern; Flint River and Northeastern.

<u>Lumber and Wood Products</u>	<u>Coal</u>	<u>Grain</u>	<u>Livestock</u>
Ahnapee and Western (60%)	Montana, Wyoming and Southern (98%)	Hoopole, Yorktown and Tampico (50%)	Buffalo (55%)
Arkansas (60%)	Oneida and Western (50%)	Waterville (100%)	
Mississippi and Alabama (85%)		Wichita Northwestern (85%)	
Murfreesboro- Nashville (93%)		Great Southern (98%)	

In addition to these, a number of roads gained from 25% to 50% of their traffic from one commodity group :

Coal	4 ¹	Cotton and textiles	1 ⁵
Petroleum products	3 ²	Sugar	1 ⁶
Grain	1 ³	Farm products other than those listed	1 ⁷
Forest products	4		

¹Arkansas, Buffalo-Union Carolina, Hoopole, Yorktown and Tampico, Jacksonville and Havana (all inbound).

²Cassville and Exeter, Virginia and Truckee, Tonopah and Goldfield.

³Suncook Valley (inbound)

⁴Canton and Carthage (outbound)

⁵Buffalo-Union Carolina (in- and outbound)

⁶Trans-Florida Central

⁷Nevada Copper Belt (outbound - potatoes and hay)

The Traffic Volume and Revenues of the Abandoned Lines.

The roads fall into several classes so far as traffic volume is concerned:

1. Hopelessly inadequate volume--under 6,000 ton miles per mile of line.

There were six such roads for the fifteen-year period,¹ plus one between 6,000 and 10,000 for the entire period and less than 6,000 for the last three years. The lowest averaged 1,283 over the last fifteen years. One additional road had less than this figure in the last three years. These were roads that were hopeless from the beginning, but somehow or other managed to subsist on very low traffic for a substantial period.

2. The lines from 10,000 to 20,000 ton miles per mile--strictly marginal, but able to survive for long periods in some instances. There were seven such lines.

3. The 20,000 to 35,000 group--7 in number.

4. 35,000 to 60,000--4. Some of these had substantially lower figures for the last three years; had they been able to retain their overall average figure, they could have probably continued.

5. 60,000 to 100,000--3. Two of these were primarily carriers of low rate forest products; the third, Wichita Falls and Southern, was the longest line in the sample, and had a very low gross revenue per mile.

6. Over 100,000--2. Montana Wyoming and Southern, which averaged 343,000 over the fifteen-year period but experienced a drastic drop in the last two years, and the low rate carrier, Oneida and Western (coal, pulp logs, sand).

¹Bartlett Western; Jacksonville and Havana; Murfreesboro-Nashville; Hoopole, Yorktown and Tampico; Lakeland; Trans-Florida Central.

Therefore, at least 25% of all abandonments were of lines that had hopelessly inadequate traffic--two or three freight cars a week and revenues under \$1,500 per mile. These lines in general had inadequate traffic from the beginning, and when they lost some to trucks, their condition was hopeless. In some instances, the condition was aggravated by decline in lumber production. Those under 20,000 ton miles per mile and under \$2,500 revenue per mile were almost equally hopeless. Those under 35,000 were strictly marginal, and it took only a slight traffic loss to trucks to push them under. By contrast, the ones above 35,000 that were abandoned either failed because their traffic was of very low rate goods (pulp wood, wood chips, etc.), their lines were relatively long, or some special circumstances were involved, such as sudden loss in traffic.

On the whole, gross revenue per mile is a better indicator of viability than ton miles per mile, as the latter is only one determinant of the former. Examination of gross revenues per mile gives comparable results. Gross revenue per mile is primarily a function of three elements: ton miles per mile, commodities carried and thus the rate per ton mile, and the length of the line, which affects the share of the joint rate the line could obtain. The dispersion was much less than that of ton miles. Eighteen of the roads had revenue between \$1,400 and \$3,200 per mile for the fifteen years prior to abandonment. Those above were all special cases. The highest, the Ahnapee and Western, gained much of its revenue from a small segment, which was retained; the Montana, Wyoming and Southern, the highest-volume road in the sample over the fifteen-year period, was abandoned

because of sudden and almost complete loss of the coal traffic; Buffalo-Union Carolina was abandoned for non-rail-loss related motives; the Flemingsburg and Northern handled high-rate manufactured goods with a favorable rate division (it was only six miles long), and the Canton and Carthage was abandoned primarily as the timber resources were exhausted. The six lines with figures below \$1,400 were all the hopelessly low traffic volume lines.

The basic conclusion reached is that, given rate levels prevailing in the period,¹ a line with revenue per mile under \$3,500 was extremely vulnerable, regardless of the ton mileage, and those under \$1,500 were hopeless. Apart from the special cases noted above, low per mile (and per ton mile) revenue explains the demise of the relatively high ton mile carriers in the sample: Flint River and Northeastern (very low rate per ton mile), Tonopah and Goldfield (low rate commodities, and length of line) and the Wichita Falls and Southern (length of line).

Loss in Traffic.

Of the 30 roads, 20 roads had less traffic in the last three years of operation than the average for the last fifteen years; 10 had more. Loss of traffic prior to abandonment was not universal by any means. Of those losing, two had losses less than 10% of their volume, nine between 10 and 25%, six between half and one quarter, and three more than half; one road (Bartlett Western) had only 25% of the earlier traffic left. In general, the roads that had increases still had very low traffic volume;

¹ No adjustment was made for overall rate level changes, as the basic national rate levels did not change greatly over the period involved.

most of these were the ones that had been hopeless for some time and some traffic increase was not adequate to save them. Increases tended to come in low rate bulk commodities.

Sixteen roads had less revenue in the last three years than their average for the fifteen; for three of these the loss was 10% or less, the median was 70, and two (BW, 67, and GS, 77) had losses in excess of 65%. Fourteen experienced an increase in revenue, four despite loss in ton mileage, the maximum 37%; but the two with the greatest increases and one other suffered a sharp drop in the last year before abandonment.

Summary.

1. By no means all of the roads experienced a significant reduction in ton mileage or revenues over the later years of operation; many of the abandonments cannot be explained by loss in traffic or revenue.

2. In the great majority of cases, however, the financial position did deteriorate in the later years; if revenue rose, expenditures rose more rapidly.

3. A few roads, however, did experience an improvement in their position. One of these, Waterville, could likely not have abandoned except for destruction of the line by flood. The others, with one exception, had very light traffic, and the improvement was too small to save the line; the reported expense figures understated the actual expense costs because of neglect of maintenance.

4. Railroads with traffic under 10,000 ton miles of traffic per mile per year and/or revenue under \$1,500 per mile, adjusted to present price levels, are almost certain to be abandoned sooner or later. Railroads

under 50,000 ton miles are marginal, but many are able to survive for long periods. Those with traffic over 100,000 usually have no problem to survive unless the traffic is almost entirely of very low rate commodities.

Net Revenue from Railway Operations.

Examination of data of net revenue from railway operations shows similar results. All but five roads showed worse financial results in the last three years than for the fifteen--but four of these had overall deficits for both periods. All but four roads showed a deficit for the average of the last three years. Of these four roads, two were abandoned for reasons unrelated to losses; the other two failed to show a deficit because they were deferring almost all maintenance. One or two had benefitted from rate increases. In general, except in the rare instance in which non-profit factors influence the decision, abandonment does not take place until operating losses are incurred for several years. Sixteen of the 30 roads showed a net deficit from railway operations for the fifteen years, in all except one instance less than that for the last three years. Since this figure includes no return on investment at all and in general only nominal amounts of depreciation charges, one conclusion is inescapable--the owners of short line roads continue to operate them far beyond the time at which strictly economic considerations would dictate abandonment. The restrictions are not regulatory; the ICC does not and constitutionally cannot compel a road that is showing a loss to continue to operate. There are several explanations of the behavior. First, there is the constant

expectation that conditions will improve. The Great Southern, for example, had potential traffic in lumber that was never developed. The Oneida and Western anticipated traffic in coal that did not come. With other roads there was the hope that traffic would pick up--even though there were no logical grounds for the belief. Secondly, a few roads were owned by shippers on the line who were willing to continue the line because of the gains to themselves from retention of rail service. In some instances, management, divorced from ownership, sought to preserve its jobs. Finally, and closely related, was the great reluctance on the part of management and owners, whether the same persons or not, to admit defeat and to deprive the communities of rail service. To J. G. Heimrich of the Great Southern, the railroad was his whole life, in a sense, and abandonment did not occur until he lost control of the road, following a lawsuit, to his sister and brother-in-law. The death of President Haehnlen of the Tonopah and Goldfield, who was particularly interested in keeping the road going, precipitated its sale to a scrap dealer.

Finally, two of the roads were owned by major railroad systems and retained for their feeder value until the situation was clearly unprofitable.

Neglect of Maintenance.

How much deferment of maintenance occurred in the later years? This is difficult to measure; one of the few measures is tie replacements per mile, compared to earlier periods. Data show that tie replacement was curtailed drastically in the last three years of operation. Seven roads reduced tie replacement by 60% or more from the fifteen-year average--and the average was itself often marginal. Twelve more reduced below the

fifteen year average; the median reduction was 33%. But seven roads actually increased--a result, at least in most cases, of one last desperate effort by management to get the road back in satisfactory condition in the hope of preserving it; in at least one other, because deterioration was so bad that more replacements were necessary to keep trains operating.

It is impossible to state whether the curtailment was simply a product of shortage of funds or action in anticipation of abandonment. The first element was probably dominant.

The data also offer some information on the replacements necessary to keep a line in condition to permit continued operation. The fifteen-year median figure of the roads for tie replacements is 116 per mile per year. Half of the roads¹ have figures in the range from 97 to 246. Five roads have figures under 60--the extremely light traffic Hoopole, Yorktown and Tampico and the Jacksonville and Havana, the Sanford and Eastern and the Wichita Falls and Southern. All were in hopeless condition at abandonment.¹

The Immediate Cause of Abandonment.

Analysis of the statements filed by the railroads in their application for abandonment indicates in most instances the final cause of the decision to abandon:

Destruction of line: In two instances, the immediate cause was clear: physical destruction of facilities. The Waterville suffered severe flood damage, and given the limited earnings, the short distance (five miles) and

¹In the Finance Docket for the Wichita Falls and Southern abandonment, a number of photographs are included, showing incredible deterioration of track and bridges.

the feasibility of trucking the grain to the main line, the decision was made not to rebuild. The second was the Ahnapee and Western. The road had suffered deficits for several years before a ship damaged the bridge providing access to the city of Sturgeon Bay. The bridge was owned by the city; the city would not use the insurance money received to repair the bridge, which was condemned, and the road was forced to cease service to most of its shippers. A feud between the railroad and the city aggravated finding a solution.

Three roads were forced to suspend when their last steam locomotive was condemned and they lacked funds to repair it--Flemingsburg and Northern, Mississippi and Alabama, Murfreesboro-Nashville. The underlying cause, of course, was unprofitable operation.

The abandonment decision with two roads resulted when the last major shipper quit using the line because of a change in operations--the Mississippi and Alabama and the Murfreesboro-Nashville, both forest product carriers; and with two others when a sharp drop occurred in traffic--Canton and Carthage from exhaustion of timber; Trans-Florida Central from a shift of sugar traffic to trucking.

With three roads, the action was precipitated by change in policy on the part of the owners or personnel changes in management. The relatively profitable Buffalo-Union Carolina was abandoned when the textile mill owners, the principal shippers, concluded that it was more advantageous to ship over the Southern Railway instead of via their own road to a connection with the Seaboard. The mill ownership had changed from local interests to a larger outside company. The Tonopah and Goldfield's decision was influenced

by two elements: the decision of the parent Tonopah Mining Company to withdraw from further mining in the area, and the death of the road's President, W. C. Haehtlen, who had been particularly interested in keeping the road in operation. The demise of the Great Southern was triggered in part by the loss of ownership by John Heinrich to his sister and brother-in-law as a result of a suit over the father's estate, and subsequent failure of the new owners to get an RFC loan for rehabilitation or to pursue lumber operations.

In most of the cases, bad track was mentioned as a primary factor; some roads indicated continued derailments. Only the Buffalo-Union Carolina and the Ahnapsee and Western reported their track to be in adequate condition. But track conditions are a relative matter; there is reason to suspect that most of the lines could have continued to operate at slow speeds with patchwork maintenance, and it is difficult to pick out from the record those that really could not.

The Underlying Causes.

The basic conditions responsible for nonprofitability can be grouped into several classes:

1. Exhaustion of timber resources. Five of the carriers in the sample--and this is reasonably representative of the short line railroads of the country as a whole--were primarily carriers of forest producers.¹ In all of these instances, the decline in timber production in the area served was the primary, and typically the sole, source of the demise of

¹Arkansas, Mississippi and Alabama, Murfreesboro-Nashville, Lakeland, Canton and Carthage.

the road. Oneida and Western also depended in part on forest products.

2. Decline of mining. The Montana, Wyoming and Southern was almost solely a coal carrier. The mines were the primary source of coal for the Northern Pacific and for a major cement plant. When both shifted away from the use of coal, the line's traffic fell drastically.

The three Nevada roads had also suffered from a decline in mining. For the Tonopah and Goldfield, this drop had occurred in drastic fashion in 1910 and more slowly thereafter, with a sharp drop after 1929. The Virginia and Truckee had lost most of its mineral traffic by the turn of the century, particularly after 1893, with another sharp drop in the 'twenties; by the end it had little left. The Nevada Copper Belt, built to serve mining areas, had never developed much mineral traffic, and had lost most of that. The Wichita Falls and Southern was adversely affected by the decline first in coal, and then in petroleum production.

Another group of roads essentially were unprofitable because there was inadequate traffic potential in the area even without the development of trucking. The Bartlett Western, the Trans-Florida Central, the Hoopole, Yorktown and Lampico, and the Jacksonville and Havana were the prime examples, and the Wichita Falls and Southern in part.

In all instances, however, except the coal-carrying Montana, Wyoming and Southern, the development of motor transport played a role in financial deterioration, but the significance of the motor carrier role is difficult to quantify. One of the first evidences was the loss to cars and buses of most of the passenger traffic, which contributed a substantial amount of the revenues of some lines without much added cost as the passengers were

carried on mixed trains. Next came the loss of the LCL traffic, at least in part. The third step, from the late 'twenties on, was the loss of carload traffic, particularly in manufactured goods, petroleum products, hay, and cattle. Except for hay, these were typically high rate commodities, and the loss of traffic was serious from a revenue standpoint. The bulk commodity traffic moving at low rates remained with the railroad, plus some of the higher-value traffic moving long distances. But this was often limited when the communities served were small. The effects of the motor carriers were, therefore, most severe for light traffic lines whose traffic was of such nature that it was easily lost. For Cassville and Exeter, Suncook Valley, Buffalo (heavily dependent upon cattle), Jacksonville and Havana, Flemingsburg and Northern, Virginia and Truckee, Nevada Copper Belt, the Lakeland, the Sanford and Eastern, and the Trans-Florida Central, approximately half of the lines, truck competition was essentially the primary reason, the importance varying with the traffic volume initially available. The other half, for the most part, were adversely affected by motor transport but probably could have survived had it not been for exhaustion of resources or general decline in the type of economic activity on which they were primarily dependent.

Communities Losing Service.

Abandonment of two of the lines left no communities with population in excess of 100 without service, since the major towns reached were also served by other railroads. The other 23 of the basic sample left a number without service:

<u>Community</u>	<u>Population at Time of Abandonment (Approx.)</u>	<u>Population 1970</u>
Carson City, Nev.	3,000	22,500
Minden, Nev.	400	400
Jamestown, Tenn.	2,109	1,899
Murfreesboro, Ark.	1,200	1,350
Dufur, Ore.	400	493
Leakesville, Miss.	1,200	1,090
Chandlerville, Ill.	824	762
Hoopole, Ill.	200	227
Flemingsburg, Ky.	2,000	2,483
Tonopah, Nev.	1,560	1,716
Goldfield, Nev.	500	200
Salt City, Ga.	329	323
Yerington, Nev.	964	2,010
Lakeland, Ga.	1,500	2,569
Cassville, Mo.	2,500	1,910
Star City, Ark.	1,300	2,032
Sturgeon Bay, Wis.	7,500	7,202
Forestville, Wis.	324	349
Buffalo, Wyo.	2,665	3,394
Waterville, Wash.	1,018	973
Trousdale, Kan.	175	80
Byers, Kan.	160	46
Woodruff, Ga.	200	na
Belfry, Mont.	752	250
Suncook, NH	4,622	4,280
Pittsfield, NH	2,183	1,662
Chichester, NH	740	na
Short Falls, NH	748	na
Epsom, NH	700	na
Allenstown, NH	1,537	na
Carthage, Miss.	1,925	3,031
Fellsmere, Fla.	651	813
Archer City, Tex.	1,895	1,722
Olney, Tex.	3,753	3,624
New Castle, Tex.	737	624
Eliasville, Tex. ¹	400	150
Breckenridge, Tex. ¹	6,605	5,944
Desdemona, Tex.	198	198

¹ Did not lose service until Rock Island ultimately abandoned the acquired segment.

na: comparable data not available

The roads, therefore, fall into three groups:

1. Those leaving no communities without service, or ones with less than 1,000 population.

2. The great majority of the lines, leaving one--but only one--community with population between 1,000 and 2,750 without rail service.

3. Three lines serving large communities or groups of communities. Sturgeon Bay, Wisconsin, was by far the largest community to lose rail service (and one of the largest left without service by any abandonment in the U. S.). But the Suncook Valley served a number of communities with populations over 750, the area totalling over 10,000; and the Wichita Falls and Southern served several.

Of the communities involved, 13 gained population from the time of abandonment until 1970; 18 declined; 2 remained the same. Comparable data were not available for the others.

Protests.

Of the 25 roads for which detailed information is available, there were no protests at all in 10 instances. The line had come to play such a slight role in the transport picture that no objections were raised. In part also, the hopeless financial condition of the line increased the tendency not to protest. In two, initial protests were withdrawn, against the Great Southern when a switch track was sold to the Union Pacific, and the Mississippi and Alabama when the sole protestant became convinced that the abandonment was justified. In three instances, protest was not serious. Some shippers on the Buffalo-Union Carolina disliked the loss of their connection to the Seaboard, which was providing good service, although

they still had access to the Southern. The chief protestor against the Murfreesboro-Nashville was a lumber company that feared higher rates because the MN provided the short route to markets. There was limited complaint against the Sylvania Central.

There was strong opposition, however, to the other abandonments, varying in intensity. Ranked roughly in the ascending order of severity of protest, the cases were as follows:

Wichita Northwestern. Complaints from grain elevators and the Wichita Board of Trade; several elevators would be left without rail service. No communities of any size were exclusively served.

Wyoming. Initially there were no protests, partly because the line had been out of service for several years. After the initial action, however, protests were entered and a new hearing held. Complaints came mainly from community groups, with the argument used that the line could operate profitably if it sought to do so.

Nevada Copper Belt. Farm and community groups fought the application on the grounds of higher cost and less suitable service.

Virginia and Truckee. While several shippers protested, most of the complaints came from the counties and community groups that feared the consequences of abandonment upon the area. Some of the protest reflected the sentimental attachment to a railroad that had been built in pioneer days and with which the community had a very strong involvement.

Tonopah and Goldfield. Shippers and communities strongly protested on the basis of the effect upon future mining development in the area. The line had been sold four years earlier to a junk dealer, who had operated

it during the war, and the protestants charged that the company had an obligation to continue to run, given the profits of that period. The Nevada Public Service Commission refused to approve abandonment, but was overruled by the courts.

Oriskany and Northern. The abandonment was opposed not only by forest producers and stage shippers, but also by coal companies and TVA, on the grounds that there was great potential for coal development, which would be cut off by abandonment.

Montana, Wyoming and Southern. This was opposed mainly by the coal mine owners, who charged that they would have to quit if the line stayed out of service. They charged that the road had been profitable for a long time, and would be again as coal mining resumed.

Suncook Valley. With one exception, this line served a greater population than any of the other roads in the sample. Abandonment was strenuously opposed, by several major shippers (furniture, grain dealers, etc.) who feared higher costs, and by the communities, especially Pittsburg because of the fear that new activity could not be lured without a railroad.

Wichita Falls and Southern. The communities and various shippers opposed the abandonment, including those that would still have one railroad remaining. Wichita Falls, served by two other lines, sought to keep direct connections to the coast. The opposition ceased, however, when the Rock Island provisionally agreed to buy the line from Breckenridge north. Then the Rock Island withdrew because of labor conditions attached, leaving the communities feeling that they had been sold down the river.¹

Ahnapee and Western. This abandonment was strongly opposed by shippers in Sturgeon Bay, who would be left without rail service. It was

¹ The Rock Island did acquire a short segment serving Breckenridge.

frustrating situation for the shippers because of the uncooperative and even belligerent attitude of the city government, which owned the bridge that the railroad had to use and would not repair it.

Should Any of These Lines Have Been Kept?

In the period in which these lines were being abandoned, there was little thought of continuation of them by subsidy. Only in the Ahnapee and Western case was there mention of municipal operation, and the city strongly objected to even considering the matter. But in retrospect, a few would have been prime candidates; most were hopeless economically. While no detailed analysis has been made of each of these roads, the community benefits could easily have outweighed the costs in the following instances:

1. Ahnapee and Western. Sturgeon Bay has a diversified group of industries, all relying on rail transport to some extent. Future development will obviously be restricted by loss of the rail line.

2. Montana, Wyoming and Southern; Oneida and Western. In view of increased importance of coal, it is unfortunate from the point of view of national policy to have lost these roads.

4. Suncook Valley. This line, serving several communities with industries using rail service, and incurring only small deficits, would have warranted a subsidy.

5. Tonopah and Goldfield. This, the second longest of the lines in the sample, left a region with substantial mining potential without rail service. This is a type of line which a state could justifiably regard as suitable for subsidy to aid a declining region. The road had been

successful over a long period in covering cost with a low traffic volume and potential deficits were small despite the length.

6. Segments of the Wichita Falls and Southern. The road as a whole was hopeless, despite the substantial traffic volume. But segments serving the larger towns could justifiably have been kept to the nearest connection with other lines.

THE LIGHT TRAFFIC LINES THAT CONTINUED IN OPERATION

For comparative purposes, data were compiled on a sample of 28 light traffic lines. Primarily these were the lightest-traffic lines of a group of 209 Class II railroads in 1968, the last year for which the I.C.C. published data for Class II roads. The group of 209 roads included all Class II roads except those excluded as untypical (primarily passenger carriers, ones operated as an integral part of a Class I railroad, switching lines, etc.). Those selected for the study had net ton miles per mile of less than 68,000 , either as an average 1954-68 or 1972-73.

The roads were as follows: Arcile and Attica; Augusta; Bath and Hammondsport; Bellefonte Central; Cadiz; Cliffside; Cotton Plant-Fargo; Ferdinand; Fonda Johnstown and Gloversville; Grafton and Upton; Hartford and Slocomb; Hillsboro and Northeastern; Hollis and Eastern; Louisville and Wadley; Louisville, New Albany and Corydon; Middleton and New Jersey; Mobile and Gulf; Montpelier and Barre; Narragansett Pier; Pecos Valley Southern; Skaneateles Short Line; Stewartstown; Sumter and Choctaw; Virginia Blue Ridge; Warren and Saline River; Warrenton; Winchester and Western; Yancey. Data were obtained from the I.C.C. Statistics of Class II Railways volumes up

through 1968 and for 1973 and 1974 from the annual reports of the railroad filed with the Interstate Commerce Commission in Washington. Wherever possible, data were obtained for a fifteen-year period ending in 1968, plus 1973 and 1974, but information was not available for all of these roads for all years. There were two special cases: Stewartstown has not operated in the last three years because the connecting Penn Central line has not been repaired following a washout (but hopes to resume), and the Augusta did not operate 1958-1963.

Ownership.

The ownership patterns are comparable to those of the abandoned roads. Nine are owned by manufacturing firms, some entirely so, some with controlling interest. Often, but not always, the owning firm is the principal shipper. Two are owned by mining companies; two by lumber companies; one by another type of business firm (Republic Housing Corp.); one by a foundation; one by a short line entrepreneur who is also a scrap metal dealer (Pinsley); and one by a city (Warrenton, North Carolina). The remaining eight, so far as can be determined, are owned locally, some primarily by shippers, a few by one or two persons, others more broadly.

Flow of Traffic.

The number of roads with dominant traffic inbound and those with dominant traffic outbound are approximately the same. Three roads had 100% originating traffic; they brought nothing in at all. Five others had over 90% of the traffic inbound, and two additional between 66 and 89%. One road was solely a terminating road (Narragansett Pier); four additional terminate over 90% of their traffic; four more over 80%; and two more over 70%.

At the other extreme one road had an almost exact balance (Ferdinand, with lumber in, furniture out), and three others, while having some dominance of outbound traffic, had at least one third inbound.

The Nature of the Traffic.

This group of roads shows a much greater diversity of traffic than the abandoned group, revealing of course the fact that a single-commodity carrier is doomed if its present traffic gives out. Coal and petroleum were of much less importance. There was, however, substantial domination by a few groups of commodities:

Lumber: Three roads (Louisville and Wadley, Sumter and Choctaw, and Warren and Saline River) are almost entirely lumber and lumber products carriers. Lumber, in- or outbound, also plays a major role with seven others. There are several heavily dependent upon mineral products--Virginia Blue Ridge, Winchester and Western, and to a lesser extent Pecos Valley Southern, Bellefonte Central, Hollis and Eastern, and Montpelier and Barre. Hillsboro and Northeastern carries primarily fertilizer ingredients, and fertilizer is important for several others. Chemical products represent major traffic for Grafton and Upton, Hartford and Slocumb, Skaneateles and to a lesser extent for Middleton and New Jersey. Farm products are not as dominant in this sample as in the abandoned roads, but constitute a major share of traffic of five (Arcade and Attica, Augusta, Cliffside, Mobile and Gulf, and Warrenton). Two are rather unusual: wine on the Bath and Hammondsport, tobacco on the Warrenton.

Ton Mileage Per Mile.

For the fifteen-year period (in some cases less because of lack of data), only two roads averaged less than 10,000 ton miles per mile--the Augusta,

with two miles of line and the Ferdinand with seven. There were seven roads in the 10,000 to 20,000 range and only one of these (14 miles) exceeded ten miles in length. Elve had tonnage between 20,000 and 35,000; five between 35,000 and 65,000; and three over 60,000 for the period (but not for 1972-73, the alternative basis for selection of the sample.

The comparison between the abandoned lines and those continuing in operation is as follows:

<u>Net Ton Miles Per Mile * 000s</u>	<u>Abandoned Lines</u>	<u>Lines Continuing in Operation</u>
Under 6	6	[*] 0
6 - 10	1	2
11 - 20	7	7
20 - 35	7	11
36-68	5	5
69-100	2	2
Over 100	<u>2</u>	<u>1</u>
Total	30	28

*Average for fifteen years prior to abandonment or prior to 1969.

This table suggests clearly two conclusions: lines under 10,000 miles per mile cannot subsist except under the most unusual circumstances (extremely short length, or ownership by a shipper who finds it profitable to keep the line operating); but above this figure, the pattern of tonnage of abandoned and operating lines is essentially the same; ton mileage,

above 10,000, is not a good indicator of ability to continue in operation. Many roads under 35,000 ton miles per mile have continued to operate for long periods.

Much of the difference can be explained in terms of gross revenue per mile; whereas 18 of the 30 roads in the abandonment sample had gross revenue per mile under \$3,200 a year, only three of the continuing roads did; the low traffic, low rate commodity (during the period) Cadiz, and the low rate commodity Hollis and Eastern and Hartford and Slocomb. Seven of the continuing roads had revenues between \$3,200 and \$5,000, eight between \$5,000 and \$7,500, two between \$7,500 and \$10,000, and eight over \$10,000. The difference--given the ton mile traffic pattern--reflects two differences: the rate division, which depends in large part on mileage, and type of commodity and thus the rate per mile.¹ Data do not permit precise separation of the relative influence of these two elements.

Mileage.

The table below compares the mileage of the abandoned and continuing lines.

<u>Miles</u>	<u>Abandoned Lines</u>	<u>Continuing Lines</u>
5 and under	2	6
6 - 12	5	9
13 - 25	9	11
26 - 50	9	2
51 - 75	1	0
76 - 100	1	0
Over 100	3	0

¹

Only a limited portion of the difference can be attributed to higher price levels in the period of the continuing group compared to that of the abandoned group.

The conclusions are obvious: no line with under 60,500 ton miles per mile of line and operating more than 50 miles of line had continued to operate, whereas the very short lines have much greater staying power. The median of the continuing lines is 10 miles, of the abandoned lines, 24.

Only two continuing lines exceed 25 miles; one of these is the relatively heavy volume, low operating cost Pecos Valley Southern; the other the Hollis and Eastern, cut back to 13 miles in 1974.

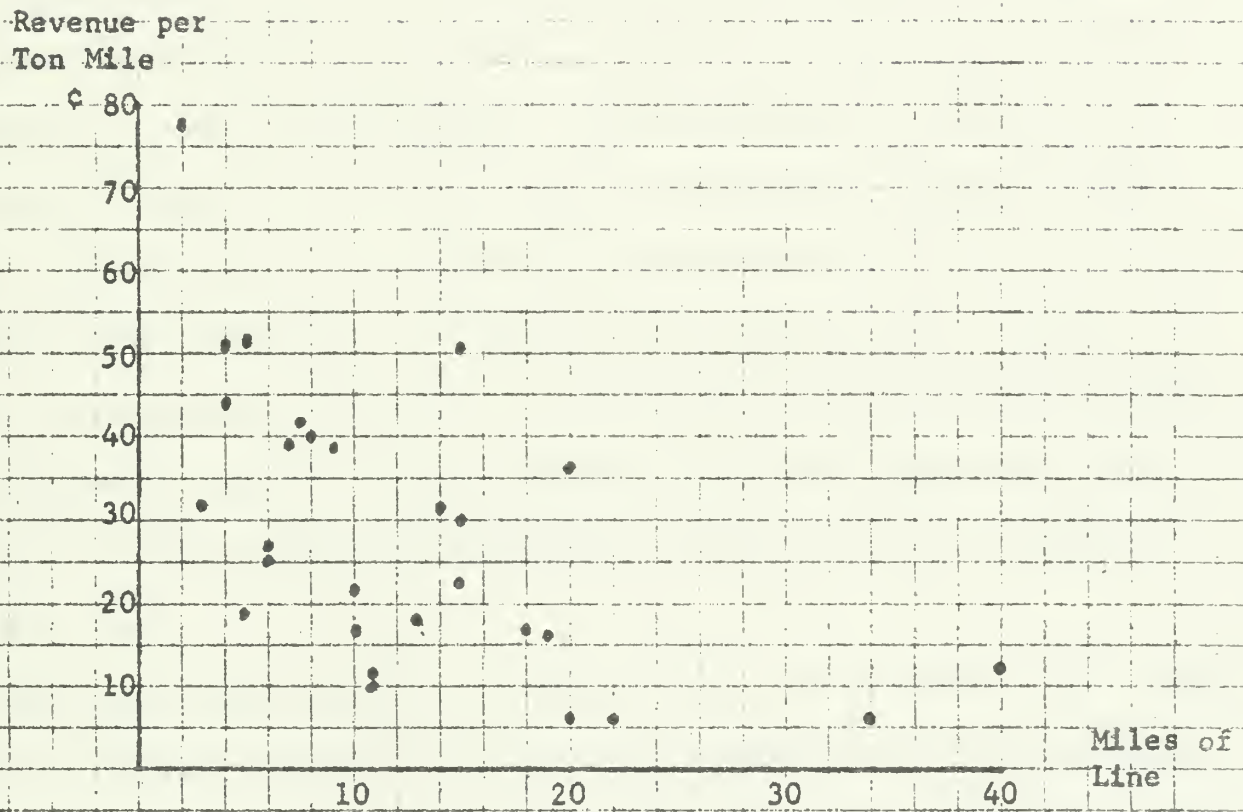
The distance factor is important in two ways. First, a long light traffic line simply cannot receive an adequate rate division to cover its relatively high cost per ton mile, whereas a line of a few miles can. With a long line, frequently the road would require over 100% of the through rate to enable it to cover costs. The other is simply the dollar and cents matter of meeting deficits, if any. The total potential deficit on a five mile line is small by any standards. Thus it can be met by the owners without difficulty as a rule, particularly when the owners are the shippers.

Revenue per Ton Mile.

Data on revenue per ton mile shown in Figure 1 reveal very clearly the ability of the shorter lines to obtain more revenue per mile--apart from a few exceptions. Arcade and Antica manages to obtain a high revenue per mile despite a 15-mile length, but none of the roads over 20 miles do, whereas all the short lines receive relatively high figures. The main line roads can profitably give the very short lines a high figure per ton mile because doing so has little effect on overall revenue.

One interesting feature of this data is that three of the roads with very light traffic are able to operate with a revenue of only about 6¢ per

FIGURE 1
RELATIONSHIP OF LENGTH OF LINE AND REVENUE PER TON MILE
1954-1968 AVERAGE



ton mile: Hartford and Slocumb, Hollis and Eastern, and Winchester and Western, although the second named has encountered financial difficulties in recent years and cut back the line.

Loss in Revenue.

The roads that survived experienced much less reduction in revenue over the fifteen-year period ending in 1968 than did the group that were abandoned prior to abandonment. Thirteen of the 28 experienced an increase in revenue and five more lost less than 10% of their revenues; of the other ten that lost, the decline was between 11 and 25% for five, between 26 and 50 for five. In other words, a sharp drop in traffic is likely to precipitate abandonment, even though the tonnage after the drop may be greater than that of roads adapted to a lower volume over a long period. For this comparison, tonnage and revenue behaved in comparable fashion.

Data were also obtained for 1973 and 1974. In comparing this period with the earlier, behavior of tonnage and revenue deviate somewhat because of increased revenue per ton mile as freight rates rose nationally.¹ Data do not exist for one line in this period (Stewartstown) because it could not operate. Twelve experienced an increase in revenue: seven over 100%, three from 25% to 50%, one each 10% to 15%, and 1% to 10%. Fifteen showed a loss in revenue, but typically more drastic: ten lines lost over 25% of their revenue and one of these over 50%. The general picture since 1968 is that one group of roads greatly improved their position (typically due to

¹Basic freight rates changed little between 1953 and 1968.

a new factory or processing plant on the line), while another group lost ground drastically--and several of the latter were seeking in 1975 to abandon the least profitable portions of their lines. As the higher revenues were due in part to rate increases, the change after 1968 is even more unfavorable from a tonnage standpoint than from a revenue standpoint. Only six roads increased their ton mileage over the long-period average, three over 50% (two of these over 100%), two between 25 and 40%, one between 11 and 25%. Twenty-one lost tonnage--and 15 of these in excess of 25%, nine of these 15 in excess of 50%. Despite the high level of business activity and railroad tonnage generally from 1968 to 1974, a majority of light traffic rail lines did not prosper; the group in the sample did continue to operate, but their economic contribution declined, and obviously continued operation is doubtful for some.

Tie Replacement.

The median figure for tie replacements was 94 per mile per year, below the figure for the roads that were abandoned (116). The discrepancy is probably explained by the higher average tonnage on several roads that were abandoned. In any event, this evidence confirms the belief that roads need to replace, on the average, about 100 ties per year, or about 5% of the total, if the line is in operable condition initially. Yet four of the roads, over a fifteen-year period, replaced less than 50 a year, and one only 16, and kept operating. The highest figure was 216; there were only two over 160.

For 1973 the median was 77, but the scattering is such that the figure is of little significance. The range was much greater--zero in several to

to a high of 290, reflecting the policy of some roads to do virtually no maintenance in some years and large amounts in others. Of the roads for which information is available for both years, four had a greater figure for 1974 than the average, ten had lower figures--a reflection of the lesser overall earnings and the sharp increase in the cost of ties. Thus the profit deterioration of the last two years may in fact be worse than the figures indicate because of some deferred maintenance.

Operating Results.

The overall financial picture of these roads is not a highly favorable one, but it must be remembered that these are the lightest-traffic roads, not a representative sample of all Class II railroads. None of the roads showed losses (net railway operating income, and therefore net after taxes and equipment rental) in all of the years covered (including 1973 and 1974). But three roads showed losses in over ten of the years (11 and 12), twelve between six and nine years, nine between two and five years, two for one year. Only one, the Pecos Valley Southern, earned profit in every year. For the pre-1968 period, one line had losses in 11 years, 14 between six and nine years, five between three and five, two for two years, one for one year, and six showed no years of losses. The picture for the years 1966-68 was basically better than for the overall period; 11 of the roads show no years of losses in this period and seven showed only one year in three; only four had losses for the three years. Thus these roads were typically not deteriorating financially, compared with the earlier years. The years 1973-74, however, show a much less happy picture. Twelve of the roads showed losses in both years, seven in one, and eight in neither year.

Of the 14 roads showing losses in 1974, the deficit was less than the tax payments for seven. The worsened position reflected the loss in ton mileage experienced by a number of roads, plus inflationary influences not fully reflected in rate levels.

Four of the roads incurred deficits in eight or more successive years prior to 1969, the longest (Louisville, New Albany and Corydon) 11 years. Yet two pulled out of the decline by new industry or by undertaking supplemental activity. One, the Fonda Johnstown and Gloversville, has not pulled out but is being aided by the shippers, and the fourth, the little Warrenton, is primarily owned by the town of Warrenton, and the deficits are very small (\$500 in 1973, for example).

It is not possible to determine how the deficits are covered in all instances. For several interest, dividend, or rental income more than covers the deficit;¹ the LNA and C has gone into the business of freight car ownership on a large scale (it owns 670 freight cars) and now shows a large net profit for the overall undertaking. In other instances shippers, usually also the owners, have provided funds. With shipper owned lines, such action is logical; the same is true of a municipally owned line where the community wishes to preserve the line for future community development. Despite deficits, examination of these lines suggests that most of them over the years, apart, possibly, from the impaired earnings in 1973 and 1974, have been continued on a rational basis by the owners.

¹Interest: Cliffside, Skaneateles; dividends: Mobile and Gulf; rental: Montpelier and Barra; Warrenton.

CONCLUSIONS

Preliminary study of this sample of abandoned and continuing light traffic lines suggests several conclusions:

1. A number of lines with traffic only a small fraction of what is regarded as necessary for profitable operation of branch lines of Class I railroads have continued to operate for long periods--a number with traffic no more than 35,000 net ton miles per mile of line annually--about 15 cars a week, and some with no more than 12,000--6 or 7 cars a week.
2. A number of the lines abandoned had more traffic than many of the lines that have continued to operate. The difference is partly attributable to the type of commodity and thus the freight rates, but primarily to the difference in distance; the shorter the line, the greater the ability to survive with light traffic.
3. No light traffic line under 65,000 ton miles per mile of line in excess of 50 miles in length has been able to survive, and relatively few in excess of 25 miles. The basic problem is that, given the higher cost per ton mile, a longer line cannot possibly obtain a rate division that allows it to cover costs. Studies show that there are relatively few economies for longer lines over shorter lines.
4. The implications of this conclusion are clear: if a branch line of a major road is to be taken over for local independent operation, the shorter the segment retained, the greater is the chance of survival.
5. While the profit record of most of the light traffic lines has not been particularly good, it has been good enough for them to continue to operate, any deficits being covered by nonrail earnings. A large number are

shipper owned, and the deficits have typically been very small. The amount of subsidy required to keep those roads showing a deficit operating is typically very small compared to the revenues of shipper owners or local governments. .

6. Examination of the two samples suggests that for the typical--but not all--short lines, when traffic falls below a figure between 20,000 and 30,000 ton miles per mile, the road is likely to encounter losses. But some very short lines have successfully adapted to figures between 10,000 and 20,000, whereas longer lines typically cannot cover costs below 65,000 to 100,000 ton miles per mile.

7. With traffic volume under 10,000 ton miles per mile, a line can operate successfully only if it is extremely short--under five miles--and/or the principal shipper finds it profitable to keep the line.

8. The samples give definite evidence that under typical conditions, tie replacements must average about 100 per mile, or 5% of the total, annually if the line is to continue to operate.

9. Most short lines have seriously unbalanced traffic, either inbound or outbound, a factor that increases costs. Many lines have depended upon one commodity; if this traffic is lost, the line is doomed, even if it has been profitable before.

10. The light traffic lines on the whole, but with several significant exceptions, experienced a deterioration in tonnage and earnings between 1968 and 1973-74. This may be only temporary.

11. Among the most successful of the light traffic lines have been the Hartford and Slocomb, formed in 1953 to take over an abandoned Central of Georgia branch; the Arcade and Attica and the Bath and Hammondsport in New York State; and the Pecos Valley Southern in west Texas.

TABLE I
DATA OF SAMPLE OF ABANDONED ROADS

Road	Year Aban- doned	Ton Miles Per Mile, Avg.		Revenue Per Mile, Avg.		Last 3 Years as % of Last 15		Tie Replace- ments per Mile, Avg., Last 15 Years	Net Railway Operating Income		Years of Losses		
		Last 3 Years	Last 15 Years	Last 3 Years	Last 15 Years	Operat- ing Expenses	Operat- ing Revenues		Last 3 Years	Last 15 Years	Of Last 3 Years	Of Last 15, or Closest Available Number	
1. A & W	1968	43,000	77,093	\$8,334	\$8,046	42	119	103	66	-27,852	-8,185	3	9/14
2. Ark	1958	43,270	55,444	1,462	2,720	25	77	54	307	-17,593	-5,947	3	12/15
3. Bart W	1935	23	696	267	802	na	32	33	na	-875	-2,415	2	10/13
4. BU-C	1950	19	60,263	51,100	5,599	41	146	112	74	+1,476	19,214	1	1/13
5. C & C	1955	35	53,666	62,171	4,095	122	97	78	217	-2,702	41,533	1	1/15
6. C & E	1956	5	27,400	11,800	2,233	213	122	109	138	+150	-321	2	9/13
7. FL & NO	1955	6	12,000	21,667	4,333	37	111	90	91	-365	5,701	2	6/15
8. FLR & NE	1946	23	90,210	52,260	7,469	103	166	146	246	-80	5,346	1	1/15
9. F & NO	1942	24	33,083	29,333	1,953	95	95	85	86	-6,059	95	2	4/14
10. GS	1936	41	4,049	9,683	211	na	33	23	ne	-2,079	3,826	3	7/15
11. HY & T	1946	12	1,641	1,283	823	77	100	95	36	+972	1,086	0	6/15
12. J & B	1937	60	3,107	5,657	706	na	71	57	51	-15,830	-15,197	3	11/12
13. Lake	1955	9	3,077	2,967	2,485	136	115	147	93	-553	3,755	2	7/15
14. M & O	1954	8	21,375	27,500	3,071	39	103	93	163	-1,601	1,719	3	4/15
15. M & A	1950	17	19,241	20,224	1,923	102	138	137	201	-649	-94	1	5/15
16. MW & S	1953	26	147,461	363,538	3,980	58	88	70	328	-25,919	3,674	3	6/14
17. N-N	1952	15	4,306	3,740	3,122	39	136	134	154	-4,347	-4,173	3	10/14
18. NCB	1947	29	15,827	18,792	1,926	146	131	117	69	-15,606	-7,004	3	12/15
19. O & W	1954	38	89,080	106,030	2,349	67	103	73	309	-63,825	-24,193	3	14/15
20. S & E	1961	32	39,000	58,125	3,207	82	99	83	51	-8,951	-92	2	6/12
21. SV	1952	25	12,400	16,800	2,523	172	112	114	111	-5,911	4,672	2	10/14
22. SC	1953	15	27,667	29,930	2,641	81	99	115	136	-556	-8,958	3	13/14
23. TEN	1933	19	17,052	31,178	1,497	na	59	45	na	-4,998	5,645	3	4/15
24. T & G	1946	102	28,765	32,863	1,773	69	61	69	116	-14,065	-173	3	7/14
25. TFS	1952	11	4,636	3,363	687	36	91	105	146	-2,169	-1,635	3	12/15
26. V & T	1950	46	29,891	10,896	3,129	118	139	133	128	-34,773	-20,063	3	14/15
27. WAT	1948	5	13,400	13,200	1,624	103	114	110	114	-252	-394	1	3/10
28. W & NW	1940	100	8,910	16,490	678	na	64	60	97	-6,071	-4,544	3	10/15
29. WF & S	1954	168	90,416	86,505	3,178	72	124	125	66	+4,201	17,624	2	5/15
30. WYO	1945	29	12,862	16,138	1,332	71	96	83	138	-3,617	+777	3	9/14

Source: Interstate Commerce Commission, Statistics of Railways for the various years; Reports filled annually by the railroads with the Interstate Commerce Commission.

TABLE 11
STATISTICS OF SAMPLE OF LIGHT TRAFFIC LINES CONTINUED IN OPERATION

Road	Miles	Ton Miles per Mile, Average		Revenue per Mile, Average		1966-68 as % of 1954-68		Tie Replacement Average	Revenue per Ton Mile, Average		Years of Losses	
		1954-68	1973-74	1954-68	1973-74	Operating Revenue	Operating Expense		1954-68	1973-74	1954-68	1973-74
A & A	15	12	31	6.5	11.7	145	145	108 ¹	51	34	6/15	1
AUG	2	10	.5	3.9	3.0	56	49	50 ¹	78	na	5/11	1
B & H	9	30	36	11.9	12.1	119	144	60 ¹	39	34	1/13	0
BC	18	88	37	15.1	8.6	64	79	4 ¹	17	26	4/15	2
CADIZ	10	16	32	2.7	9.5	174	170	90 ¹	17	41	9/13	0
CLIF	4	20	17	10.2	12.9	102	178	157	51	100	2/15	2
CP-C	6	18	12	4.4	6.2	90	116	200	25	29	3/13	2
G-U	15	34	39	12.6	18.5	88	107	68	18	30	6/15	0
FERD	7	9	13	3.9	8.7	97	102	174 ¹	42	81	8/14	0
FJG	20	33	na	11.8	9.3	62	71	68 ¹	36	na	7/15	2
H & S	22	42	135	2.4	7.0	128	137	75	6	6	7/15	22
HNE	5	27	15	5.2	3.6	67	88	0 ¹	19	48	7/13	1
H & E	34	44	39	2.8	1.9	109	101	na	6	6	6/10	2
LNAC	8	16	11	6.3	9.0	84	118	102	40	40	11/17	0 ³
L & W	10	29	15	3.2	3.4	106	80	148	11	10	10/15	1
M & NJ	14	15	12	3.6	9.1	162	134	36	25	67	7/15	0
M & G	11	44	22	5.6	3.9	86	75	83	12	18	3/15	1
M & B	15	55	24	15.8	11.3	90	92	na	28	23	0/12	2
NP	6	24	5	6.7	1.7	82	91	97	27	34	7/15	2
PVS	40	67	55	8.2	9.8	87	74	36	12	18	0/15	0
SK	5	30	28	17.9	18.4	100	112	72	58	52	0/15	2
ST	7	11	no	4.4	no	107	109	16	39	no	9/15	no
S & C	4	31	27	13.4	18.0	90	83	218	44	67	4/15	1
VBR	15	93	57	19.2	13.4	93	92	60 ¹	22	23	0/15	0
W & SR	19	40	10	6.4	4.7	106	94	20 ¹	16	41	6/14	2
WAR	3	22	7	7.1	4.9	72	91	77	32	57	10/14	2
W & W	20	124	68	6.9	3.8	126	96	159 ¹	6	6	0/12	1
YAN	13	26	7	4.0	2.2	105	106	69 ¹	18	31	0/13	2

¹1973-74 data only.

³Profit not entirely from railroad line operations.

²Loss reflects temporary increase in cost as volume rose sharply. no: Did not operate 1973 and 1974.

APPENDIX: THE ROADS ABANDONED

- 1 Ahnapee and Western (FD 25126), ab. 1968, 19 miles, from Algoma Wye to Sturgeon Bay, Wisconsin, built in 1890-94. A small segment, from the Wye to Algoma, was retained and is operated by the Green Bay and Western. The company was owned by an individual, the traffic manager of an industry in Algoma. Traffic averaged 2.6 cars per train outbound, 1.3 inbound. Trains were typically operated three times a week, using a 660 HP diesel. The closing of three major plants had caused a decline in traffic, but the factor precipitating abandonment was the damage to the bridge into Sturgeon Bay resulting from a ship collision. The city owned the bridge but would not repair it, and the line was forced to cease operations into the city. Lumber, food products, chemicals, and steel for the ship-building industry were the chief sources of traffic. There were 19 shippers using the line on the east side of the bridge, 8 on the west side. Shippers strongly protested, but the application was granted.
- 2 Arkansas Railroad (FD 20469), ab. 1959, 18 miles from Gould, Arkansas, to Star City (pop. 1,300), built in 1907, primarily to serve sawmills. Decline in agriculture and industry (there were once 18 sawmills on the line; by 1959 there were none), and trucking of pulp logs to Pine Bluff led to losses. Trains were operated only as required. The line was reportedly in unsafe condition. There were no protests to abandonment.
- 3 Buffalo-Union Carolina (FD 16331), ab. 1948, 19 miles, from Union, South Carolina, via Buffalo to a connection with the Seaboard.

The segment from Union to Buffalo was sold to the Southern. The line was built between 1899 and 1905 to serve a power plant and two textile mills, which owned the line. Following a change in ownership of the mills, the decision was made to abandon and use the Southern Railway for all traffic. Intermediate point traffic was negligible. A mixed train made a daily trip. The line was in fair condition; abandonment was not sought because of unprofitability, but because of change in management policy of the owners. There was some protest from shippers over loss of the connection to the Seaboard, but the request was approved, since virtually no shippers would lose service.

- 4 Canton and Carthage (FD 20814), ab. 1959, extending 32 miles from Canton, Mississippi, on the Illinois Central main line, eastward to Carthage (pop. 1,925); ~~was~~ built in 1928, primarily to handle logs and lumber. At the peak, it was 54 miles in length, but was cut back as timber was exhausted. With further exhaustion of timber and increased truck competition, revenues fell sharply after 1955; in 1959 the road embargoed traffic because of unsafe track and sought to abandon the line. There were, surprisingly, no protests, and permission was granted. While primarily a lumber and pulp log carrier, the road handled, inbound, a substantial quantity of manufactured goods traffic, plus gravel, fertilizer, and food products. Total inbound traffic in 1958 was 542 cars--or about four cars per train (operated three times a week). Outbound traffic was well over 1,000 cars prior to 1958--158 of cotton, for example, in 1957--the remainder pulp logs and forest products. But much

of the traffic carried was moved at low rates, and the line was too long to get an adequate rate division to allow it to cover costs. Track had deteriorated badly; at least 10% of the ties needed replacement.

- 5 Cassville and Exeter (FD 19502), ab. 1956, 5 miles, from Cassville, Missouri (pop. 2,500), to Exeter, on the Frisco. The road, built in 1896, was locally owned, in the later years by six shippers. Trains were operated only as needed; already, many shippers were hauling to Exeter to avoid the higher rail charge to Cassville. Operations had been suspended because of bad track and there had been no demand to resume. The area was primarily dependent on dairying, and highways were used for most traffic. Traffic was primarily terminating, primarily coal and petroleum products, and a limited amount of hay and strawberries originated. There were no protests.
- 6 Flemingsburg and Northern (FD 19020), ab. 1955, 6 miles, from Flemingsburg, Kentucky (pop. 2,000), to a connection with the Louisville and Nashville; serving an agricultural area. An estimated 90% of the traffic had shifted to trucks; almost all traffic was inbound, of various manufactured goods. Operations ceased as there were no funds to repair the road's only locomotive. There were no objections.
- 7 Flint River and Northeastern (FD 15373), ab. 1946, 23 miles, Pelham to Tichnor, in southwestern Georgia, connecting with major roads at each end, serving a farming and lumber area. Built as a logging road, it was acquired by the Pidcock interests, owners of several other roads in the area, in 1903. Most of the traffic was in lumber,

cottonseed oil, peanuts and wood pulp, but almost all was to the towns at each end also having other rail service. There was only one small sawmill at other points, and no towns over 215 population. Track had deteriorated badly and derailments were numerous. There were no protests to abandonment.

- 8 Great Southern (FD 10880), ab. 1936, extending from a connection with the UP at The Dalles, to Dufur (pop. 400) and Friend (pop. 50), 41 miles. The road was completed to Dufur in 1905 and to Friend in 1913. Traffic had been primarily in wheat, and, at times, fruit; plans to extend the road into the timber area to handle logs were never implemented. Loss of traffic to trucks and the very limited potential traffic without timber development resulted in continuing losses after 1925. The road was owned by one family throughout, but the demise was heightened by a lawsuit between the operator and his sister. The road operated only spasmodically, mainly to take out the annual wheat crop, after 1927. There were no protests to abandonment once the switch track in The Dalles was acquired by the shippers and given to the Union Pacific.

- 9 Hoopole, Yorktown, and Tampico (FD 18051), ab. 1953, 12 miles, from Hoopole to Tampico, Illinois, built in 1913 by local interests to connect Hoopole (pop. 200) with the CB and Q. Traffic was very limited, consisting of grain outbound, and lumber, coal, and petroleum products inbound. There were only two shippers, grain and building materials dealers, whose parent company owned the line. The latter had made the decision to shift over to the use of trucks. There were no protests.

- 10 Jacksonville and Havana (FD 11705), ab. 1937, extending 42 miles from Havana to Jacksonville, Illinois, via Virginia. The line was formed by local residents in 1926 to take over this portion of the abandoned Chicago, Peoria and St. Louis. Part of the line was built in 1853, part in 1869. Continuous losses had been incurred, and there were no funds to pay for the locomotive leased from the IC. A truck on rails provided mail, express, and passenger service. Only Chandierville (pop. 824) was left without rail service. This line served an agricultural area; the dairy industry was served almost entirely by truck and more and more of the grain was being trucked to Havana for river transport. The principal traffic items were coal and petroleum products, both of which exceeded the outgoing grain. Some bridge traffic was handled. There were no protests to abandonment.
- 11 Lakeland (FD 18872), ab. 1935, 9 miles, from Lakeland, Georgia (pop. 1,500), to a connection with the Atlantic Coast Line. It was built as a logging road around the turn of the century, becoming a common carrier in 1903. Declining traffic led the company to apply to abandon in 1928, and when this was granted, the city of Lakeland acquired the road and operated it until 1955. Traffic was extremely light as a result of the decline in lumber production and the use of trucks for the mixed farming in the area, and the city eventually sought to abandon the line, without protest.
- 12 Mississippi and Alabama (FD 16811), ab. 1949, extending from Leakesville, Mississippi (pop. 1,200), to a connection with the GM and O at Vinegar Bend, Alabama. Built as a logging road, it became a part

of the Alabama and Mississippi; when the latter was abandoned, the M and A was formed to take over this portion. Most of the traffic was in logs and pulp wood. Application to abandon was precipitated by closing down of the principal shipping firm, a veneer and lumber company, in 1949, plus the condemning of the last locomotive. Only one lumber mill still operated on the line. The timber had given way to agriculture, but this produced only limited traffic in fertilizer. There was no serious protest.

- 13 Montana, Wyoming and Southern (FD 18276), ab. 1953, 23 miles connecting several coal mining towns, the largest being Belfry (pop. 752), in southern Montana with the CB and Q. The line was built in 1905 to serve the coal mines, and coal provided all the traffic except a limited quantity of agricultural products. After coal traffic fell sharply when the Northern Pacific dieselized and a major cement plant shifted to gas, the road sought to abandon, despite many years of profitable operation. The coal companies fought the abandonment to no avail, and one was forced to close down. Much of the dispute centered over whether a contract that allowed the Northern Pacific to operate over the line from Bridger to Belfry was a major source of the losses.
- 14 Murfreesboro-Nashville (FD 17654), ab. 1952, extending 15 miles from Murfreesboro, Arkansas (pop. 1,200) to a connection with the Missouri Pacific at Nashville, intersecting the Prescott and Northwestern at Tokio. The line had passed, following bankruptcy, into the hands of a contractor in a nearby city. Traffic was confined almost entirely to lumber, pulp wood, and petroleum

products. Abandonment was precipitated by the loss of the principal traffic, pulp wood logs for the International Paper Co., which changed its operations and built new pulp yards in another town. The proposal was protested strongly by the remaining shipper, a lumber mill, and by the community, but was approved; the owners were not willing to put more money in, and the line was in dangerous condition.

- 15 Nevada Copper Belt (FD 15838), ab. 1947, extending 29 miles from the station of Hudson via Mason (pop. 50) and Yerington (pop. 964), to a connection with the Southern Pacific's Mina branch at Wabuska, in west central Nevada. The road had been built to serve copper deposits, but these were soon exhausted, and the road's traffic consisted primarily of hay and potatoes, plus limited copper ore and gypsum, outbound, and petroleum products, wheat, and cattle inbound. Total traffic was very light. Ownership ultimately passed in to the hands of an outside interest. Equipment and track were in adequate condition, but continued operating losses led to abandonment. Local community and farm groups protested.
- 16 Oneida and Western (FD 18065), ab. 1954, extending 38 miles from Jamestown, Tennessee (pop. 2,100), to a connection with the Southern Railway. Construction started in 1914, but the line did not reach Jamestown until 1930. It was built to handle timber and coal, but the latter never fully developed. Freight service was operated twice a week, with a Brill motor car for other service. Timber operations had declined and what few farm products there were moved by truck. The traffic in later years was primarily in

coal, with some forest products, fertilizer, cement, and stone. The line had been built by a lumber company, then was owned by a contracting firm and finally by a coal company with limited production. There was strong protest against the abandonment, from other coal companies, TVA, which hoped to get coal from the area, forest products firms, and stone shippers. There was widespread feeling that the company had not made much effort to get traffic, which nevertheless was substantial, compared to most short lines.

- 17 Suncook Valley (FD 17866), ab. 1952, extending 23 miles from Concord, New Hampshire, via Suncook to Pittsfield (pop. 2,183). There were several other towns over 750 in population. The line had been built by local interests, operated by the Boston and Maine under lease until 1924, and then returned to local operation. Grain for feed was the largest source of traffic, plus lumber, box materials, pulp wood, and coal. The traffic was largely inbound. The road had been owned in large part by the general manager, who had been with it since 1924. Not too long before the application, the manager sold his stock to S. M. Pinsley, who operates several New England short lines; Pinsley apparently intended to operate the road, and then upon further examination decided against it. The shippers and the communities objected very strongly, and argued that Pinsley merely wanted a quick profit from the line. But the road had shown losses, though small ones, for a number of years, and abandonment was approved.

- 18 Sylvania Central (FD 18230), ab. 1953, extending 15 miles from a connection with the Savannah and Atlanta at Sylvania, Georgia, to

a connection with the Central of Georgia at Rocky Ford. The line was a subsidiary of the Central of Georgia but operated independently. Most of the traffic was at the terminal points; the only intermediate town was Woodruff (pop. 200). Lumber products provided the largest element of traffic, with some shipments of fertilizer and farm products. One firm in Woodruff, a merchant and lumber dealer, protested the abandonment. While the road had not lost traffic, it was not covering operating expenses, and actually served no useful function.

- 19 Tonopah and Goldfield (FD 15454), ab. 1945, extending 97 miles from Goldfield, Nevada (pop. 500), via Tonopah (pop. 1,560), to a connection with the Southern Pacific at the end of the latter's Mina branch. The road was built in 1903-04 to serve a mining area, and was owned by the Tonopah Mining Co., a Philadelphia firm with extensive mining interests in the area. The line was once part of a through route from Reno to Las Vegas. The line was highly profitable in early years, but experienced a drastic fall in traffic as mining declined and the towns lost population. For some years, the ton mileage was only 5% of that of the peak years, yet the road managed to cover costs. But further decline and discontinuation of its mining operations led the Tonopah Mining Co. to sell the road for junking to a scrap metal dealer. But before the line was torn up, the Air Force established a base at Tonopah, and the line continued to operate until 1946, when it applied to abandon. The petition was fought vigorously, but the permission was granted since losses could be demonstrated. Inbound

traffic, largely in petroleum products, and outbound traffic, mostly ore, were about the same in total. The line provided an excellent example of a road that had adjusted for a very long period to traffic only a small fraction of the original levels.

- 20 Trans-Florida Central (FD 17099), ab. 1952, extending 16 miles from a connection with the Florida East Coast at Sebastian, Florida, to Broadmoor. The 6 miles of this line from Fellsmere to Broadmoor had not been operated for 20 years. The line had been built in 1910 as a part of an agricultural project. Control passed into the hands of the Ammoniate Products Co. in 1924 to serve a humus processing plant; when this declined, the road survived primarily to serve a sugar mill. Ownership was local. Fellsmere, the only town served, had a population of 650. The traffic, very light at all times, dropped sharply after 1951, when most of the sugar was handled by truck and pulp wood log movement ceased. Total traffic fell from 151 cars in 1951 to 77 in 1952--8 originated or terminated per mile. With the sharp decline in traffic in 1951, the road sought to abandon in 1952. There were no protests and the application was granted.
- 21 Virginia and Truckee (FD 16407), ab. 1950, extending 47 miles from a connection with the Southern Pacific at Reno via Carson City (pop. 3,000), to Minden, Nevada (pop. 400). The original portion, built in 1869, from Carson City to Virginia City was abandoned in 1938; the Carson City-Reno portion was completed in 1872, the extension to Minden in 1906. The road was originally built to serve the Virginia City mines, the Minden segment to handle

agricultural traffic. The road continued to the end to operate daily mixed train service. Built by local and California financiers with extensive banking and mining interests in Virginia City, it was owned entirely in later years by the estate of Ogden Mills, grandson of one of the original owners, and Secretary of the Treasury in the latter part of the Hoover administration. Decline of mining and shift of agricultural traffic to trucks resulted in years of operating losses and deferment of maintenance. Management made a strong effort to increase traffic, but with limited success. Traffic was primarily inbound, in cattle and petroleum products, plus a substantial variety of manufactured products. There was limited outbound traffic in farm products, cattle, and ore. The abandonment was strenuously protested by the communities and various shippers; apart from economic considerations, there was a strong sentimental attachment to the line. But with the demonstration of losses (at least \$90,000 had been advanced by the Mills estate to keep the line going) permission was granted.

- 22 Waterville Railroad (FD 18379), ab. 1945, extending 6 miles from Waterville, Washington (pop. 1,018), to a connection with a Northern Pacific branch line at Mansfield. The line was built in 1905 by local farmers and businessmen to handle wheat traffic and inbound farm supplies. Despite loss of non-wheat traffic to trucks and a very light volume, the road was getting by until much of the track was washed out by a flood in 1948. Decision was then made not to rebuild but to truck the grain. There were no protests.

23 Wichita and Northwestern (FD 13006), ab. 1940, extending a total of

99 miles, northwestward from Pratt in south central Kansas to Kinsley and via Larned to Vaughn. The largest towns served exclusively were in Prousdale (pop. 175), and Byers (pop. 160). There were several connections with main line roads. The line was organized by local interests in 1912 to build 275 miles from Anthony, Kansas to Hastings, Nebraska. Construction continued slowly from 1913 to 1917, when the effects of the war resulted in cessation before reaching the planned destination. The line was designed to lessen the wagon haul necessary for the wheat farmers of the area. The road had limited traffic at best, and was hard hit by the drought of the mid 'thirties, by loss of some traffic to trucks, and deterioration of the towns. Rails were very light, ballast nonexistent, and the road had considerable trouble with drifting dust covering the rails. The company was in desperate financial condition, and the court finally ordered suspension of operations when there were no funds to pay bills. While the grain elevators protested, the ICC had no alternative but to allow abandonment.

24 Wichita Falls and Southern (FD 18163), ab. 1934. The longest line in

the sample to be abandoned was the Wichita Falls and Southern, extending 168 miles south from Wichita Falls, Texas, to Dublin. The line was built relatively late--in three segments, Wichita Falls to Newcastle, 1908, primarily to reach coal deposits and leased to the MKT until 1920; the portion from Dublin north to Jimkurn, 1920, and in 1921, the connecting link, Jimkurn to Newcastle, to reach

new oil-producing areas. In 1927 the three were merged as the Wichita Falls and Southern. It was owned by one man, Frank Kell, until his death in 1942, and then by his estate and by other local interests. There were six connections with other roads, three at the ends, three at intermediate points. The largest city exclusively served was Breckenridge, 6,605 (an oil refinery center). There were at one time two other short lines in the area as well.

The road had never had a heavy volume of traffic, and suffered from the early decline of coal, increased reliance by the petroleum industry, itself declining in the area, on trucking, and the limited potential for other traffic, and the decline of the towns. Yet even in 1952 the traffic was substantial--6,776 cars handled. About 40 cars per mile originated or terminated, with 110,000 ton miles per mile of line. Most of the traffic consisted of manufactured goods, with a wide diversity, rather than reliance on a few items. But the total revenue was inadequate to cover costs; Kell reportedly made up the deficits out of sentimental attachment to the line, but ultimately, after his death, the new owners decided that the line was hopeless and sought to abandon. Deterioration of track and bridges was severe.

Opposition was very substantial, given the importance of the line to several towns and the desire of Wichita Falls to maintain direct connections to the south. Various shippers and communities, including those also served by another line, fought the application. The Rock Island initially agreed to buy the entire northern portion

above the Breckenridge area, and thus most opposition to the abandonment ended. But in the end the Rock Island withdrew its request, as it was unwilling to accept the labor conditions imposed, and purchased only the track from Graham to Breckenridge. This did preserve service to the largest community. But ultimately the Rock Island abandoned the entire Graham branch.

- 25 Wyoming (FD 17612), abt. 1947 (formally, in 1952), extending 29 miles from Buffalo (pop. 1,700), in northeastern Wyoming, northward to a connection with the Burlington at Clearmont. The road was built in 1909 by a group from Cedar Rapids, Iowa, primarily to handle cattle, sheep and wool. After 1930 a substantial volume of traffic was lost to trucks, hauling south to Casper, and the road was sold to a Denver man who planned to continue operations but was forced to suspend regular service in 1946 and all service in December 1947. The road went into receivership and an attempted plan of reorganization was disapproved by the ICC. Initially there were no protests; after the application was approved, the communities protested and a rehearing was held. Much of the opposition came from lumber yards concerned about the higher cost of freight. But given the bad condition of the line and the losses, approval to abandon was granted.

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